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|\~/|      Maple 2021 (X86 64 LINUX)
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|          Type ? for help.

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```

> EEA := proc(m,u) local s,t,r,q,i;
> # s[0],s[1] := 1,0;
> t[0],t[1] := 0,1;
> r[0],r[1] := m,u;
> printf("\n");
> printf("%4s %10s %10s %10s %12s\n","i","r[i]","t[i]","q[i+1]","r[i]/t[i]");
> for i from 1 while r[i]<>0 do
>   q[i+1] := iquo(r[i-1],r[i]);
>   r[i+1] := r[i-1]-q[i+1]*r[i];
>   # s[i+1] := s[i-1]-q[i+1]*s[i];
>   t[i+1] := t[i-1]-q[i+1]*t[i];
>   printf("%4d %10d %10d %10d %12a\n",i,r[i],t[i],q[i+1],r[i]/t[i]);
> od:
> end:

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> m := 10^6-17;
                                     m := 999983
> u := 72/109 mod m;
                                     u := 137613
> EEA(m,u);

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i	r[i]	t[i]	q[i+1]	r[i]/t[i]
1	137613	1	7	137613
2	36692	-7	3	-36692/7
3	27537	22	1	27537/22
4	9155	-29	3	-9155/29
5	72	109	127	72/109
6	11	-13872	6	-11/13872
7	6	83341	1	6/83341
8	5	-97213	1	-5/97213
9	1	180554	5	1/180554

```

> u := rand(m)();
                                     u := 113500
> EEA(m,u);

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i	r[i]	t[i]	q[i+1]	r[i]/t[i]
1	113500	1	8	113500
2	91983	-8	1	-91983/8
3	21517	9	4	21517/9
4	5915	-44	3	-5915/44
5	3772	141	1	3772/141
6	2143	-185	1	-2143/185
7	1629	326	1	1629/326
8	514	-511	3	-514/511
9	87	1859	5	87/1859
10	79	-9806	1	-79/9806
11	8	11665	9	8/11665
12	7	-114791	1	-7/114791
13	1	126456	7	1/126456

```

> quit

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